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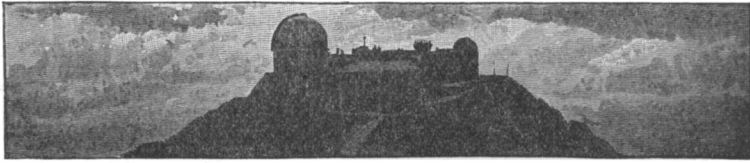
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FRANCIS BRUENNOW.
1821-1891.



NOTICES FROM THE LICK OBSERVATORY.

PREPARED BY MEMBERS OF THE STAFF.

FRANZ FRIEDRICH ERNST BRÜNNOW. BY PROF. A. KRUEGER.*

FRANZ FRIEDRICH ERNST BRÜNNOW, the eminent astronomer, departed this life on August 20, 1891, in Heidelberg, at the age of nearly seventy years. He was born in Berlin on the 18th of November, 1821, his mother (née WILHELMINE WEPPLER) being the first wife of JOHANN BRÜNNOW, Privy Counselor at the Royal Court. He attended the Friedrich-Wilhelm Gymnasium from 1829 to 1839, when he entered the Berlin University, attending the lectures of DIRKSEN, LEJEUNE-DIRICHLET, OHM and STEINER in Mathematics, ENCKE in Astronomy, and DOVE in Physics. He also listened to the lectures of the most famous instructors in the sciences of Chemistry, Philosophy and Philology, so that he did not remain a stranger to these branches. In 1843 he received the degree of Doctor of Philosophy after he had published his thesis "de attractione moleculari." Together with D'ARREST, and under the direction of ENCKE, he took a zealous part in the astronomical work of the Berlin Observatory, of which his very numerous papers in the *Astronomische Nachrichten*, from the 22d volume onwards, give evidence.

In the spring of 1847 he removed to Bilk, near Düsseldorf, as director of the observatory at that place. Among the greater works produced during this time is to be mentioned the memoir on DE VICO's comet (*Mémoire sur la Comète elliptique de DE VICO*, Amsterdam, 1849), for which he received the gold medal of the Amsterdam Academy. It was during the time of his residence in Bilk that the text-book on Spherical Astronomy was prepared; the first edition, containing a preface by ENCKE, was published in Berlin by DÜMMLER in 1851. This text-book, continually improved and extended, reached a fourth edition, and

* Translated from the German by J. M. S.

was translated into English, Russian, Italian and Spanish. It has perhaps done more to establish the fame of BRÜNNOW than any of his other works. It soon became, and is even now, a most valuable aid to the younger astronomers to whom it offers, in its condensed form, an introduction to self study.

After the departure of Professor GALLE for Breslau, in the fall of 1851, BRÜNNOW was called to the position of first assistant in the Berlin Observatory, in which capacity he remained from November, 1851 to 1854. In Berlin he computed the tables of *Flora* with the aid of the formulae given by ENCKE in the *Berliner Jahrbuch* for 1857. In later years, 1859 and 1869, tables of *Victoria* and *Iris* followed, which have for a basis HANSEN'S form of the perturbative function.

His stay in Berlin was not of long duration. BRÜNNOW was tendered the office of Director of the new observatory in process of erection at Ann Arbor, Michigan, which position he accepted in 1854. In Ann Arbor he issued a journal "*Astronomical Notices*" for a number of years; it first appeared in Ann Arbor, later in Albany, whither he was called, in 1860, to infuse a new activity as Associate Director of the Observatory. In the year 1863, after the outbreak of the war, he resigned his position at Ann Arbor, whither he had returned in 1861, visited, among other places, Berlin and Hamburg, in order to assume, in 1866, as Astronomer Royal for Ireland and Professor of Astronomy in Trinity College, the charge of the Observatory at Dunsink. The results of his investigations on stellar parallax at this place are published in two volumes.

Owing to overwork and weak eyes (he would at times see lines and graduations double) he resigned this conspicuous position in order to live in Basel. In 1880 he removed to Vevey, Switzerland, and after a short stay in Oxford in 1888, he took up his residence in Heidelberg in 1889.

On the 18th of March, 1857, BRÜNNOW was married to REBECCA LLOYD, the still living daughter of Rev. HENRY PHILIP TAPPAN, at the time President of the University at Ann Arbor. The offspring of this marriage was an only son, RUDOLPH ERNST, at present professor of oriental languages in the University of Heidelberg. After the time of BRÜNNOW'S departure from Dublin, his eye-trouble prevented him from engaging deeply in scientific studies,—he limited himself to the work of issuing a new edition of his "*Spherical Astronomy*,"—and thus was enabled to

give more time to music of which he was very fond, and for which he must have possessed a remarkable talent. It is said that once he remarked, with altogether too modest a view of his important labors in astronomy, that he should in fact have devoted himself wholly to music.

His last communication to the "*Astronomische Nachrichten*" No. 2754, is dated October 20, 1886; it refers to DE VICO's comet.

His death was very unexpected; it is true that he suffered for a long time from weakness of the heart, and was seriously ill in June of the present year; yet as he was declared to be again convalescent he made preparations for a journey into Switzerland. A blood clot in the leg, however, again chained him to his bed and led to a painless death through apoplexy.

Although BRÜNNOW was obliged to desist from purely scientific activity during his last years he has nevertheless completed a life full of fruitful work and beauty and which will ever take a commanding place with those of his cotemporaries.*

EXPERIMENTS ON THE EFFECTIVENESS OF PHOTOGRAPHIC
TELESCOPES OF DIFFERENT FOCAL-LENGTHS [BY
PROFESSOR N. C. DUNÉR, DIRECTOR OF
THE OBSERVATORY OF UPSALA].

In the *Vierteljahrsschrift der Astronomischen Gesellschaft*, 1891, p. 167, Professor DUNÉR gives a brief account of some experiments with photographic telescopes of different lengths, somewhat as follows. Two telescopes were ordered by him from STEINHEIL, each of 55^{mm} (2.17 inches) aperture, one being of 55^{cm} (21.7 inches) focal length, while the other was of 110^{cm} (43.4 inches). These telescopes were used simultaneously and side by side in making negatives of the *Pleiades*. The resulting star-discs were measured after separating them into two classes, (a) those discs where the star images were fully black, and (b) those where the images were not equally black throughout. Taking both classes together Professor DUNÉR finds that the shorter telescope gave stars about $\frac{1}{10}$ of a magnitude fainter

* The portrait of Professor BRÜNNOW which accompanies the foregoing notice by Professor KRUEGER was given to me by one of his former students in astronomy. It represents him as he was known to his friends and pupils in the United States, and its genial and kindly expression shows why he was as deeply loved for his character as respected and admired for his great attainments.
E. S. H.